Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at http://about.jstor.org/participate-jstor/individuals/early-journal-content.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact support@jstor.org.

tributed to subscribers. The six parts now issued contain tangential, radial and transverse slices of 150 pieces of trees, and form an nvaluable part of the equipment of any botanical museum. Cross sections of these woods mounted as lantern slides are also prepared by Mr. Hough. Descriptive matter and specimens of the work may be obtained from him by addressing R. B. Hough, Lowville, N. Y.

Photographs of Fungi. We have received from Mr. C. G. Lloyd, of Cincinnati, the first set of a series of photographs and photogravures of the larger fungi, prepared by him for distribution among a limited number of students. The execution of these photographs is excellent and they cannot fail to be of great aid to mycologists. The species are determined by Mr. A. P. Morgan, of Preston, Ohio. Mr. Lloyd informs us that the sets are not for sale.

Reviews.

Guide to the Study of common Plants. An Introduction to Botany. V. M. Spaulding. 2nd edition, pp. 287. Boston, D. C. Heath & Co. 1895.

The second edition differs from the first mainly in the addition of a glossary and index of botanical terms, an index of plant names, and a chapter on fungi.

The text has undergone some alterations and a number of additions have been made to the reviews and summaries at the ends of chapters. The chapter on Fruits has been completed by a few pages on "The Organs of Flowerless Plants."

The chapters on ferns and club mosses have been simplified by the omission of the anatomy and developmental history, although the latter reappears in a review and summary of the Vascular Cryptogams. Many additions have been made to the "special studies," particularly in the portion of the book devoted to the families of flowering plants. E. A. S.

A preliminary List of the Mosses of Minnesota. John M. Holzinger. (Minn. Bot. Studies, Bull. No. 9, March 5th, 1895).

This list includes 156 species, arranged according to Renauld and Cardot's list, with the addition of one new variety, *Amblyodon dealbatus* var. *Americanus*, R. & C. ined., which has been distributed as No. 180 of their Musci. Am. bor. Exsicc., with description and notes in their observations. These specimens should be compared with *M. Macounii* Aust. which has been referred to *Amblyodan dealbatus* in the Manual. *Gymnostomum curvirostrum* var. *scabrum* is also an addition to the flora, not having previously been reported. We find several typographical errors, one of which is guilty of making a synomym for *Coscinodon Raui*. We have two sets of specimens from the Bluffs at Winona, and have not found *C. Wrightii* among them, but *C. Raui* does occur, and the fact that M. Cardot has determined it as *C. Renauldi*, adds another point to my argument that the species are identical.

The citation of authorities for *Cynodontium Wahlenbergii* (Brid.) Hartm. is incorrectly given, and *Physcomitrium pyriforme* is listed on Cardot's determination. We have not yet seen an American specimen which agreed with this species, and the ones sent to us by M. Cardot bearing this name are not excepted. *Physcomitrella patens* (Hedw.) Br. & Sch. should be added as having been collected by Miss Sheldon at Fort Snelling, Minn., October, 1894. E. G. B.

On new Species of Cretaceous Plants from Vancouver Island. J. W. Dawson. Trans. Roy. Soc Canada, sec. 4: 53–72. *pl. 5–14.* 1893.

In this paper are included descriptions of twenty-eight new species, some of which are, however, certainly referable to previously described species. The figures are poor and some of the material upon which new species are founded is too fragmentary to be satisfactory. In deference, doubtless, to certain critics of palaeobotany the author finds it advisable to use these words: "I think it proper to say that I cannot be expected to pledge myself for the accuracy of the generic names attached to mere leaves. When the fruit shall be found connected with them, they may require very different reference. At present they merely stand as forms of certain types characteristic of a certain geological age, and admitting of more or less accurate comparison with modern plants," which sentence he sums up quite concisely all that the palaeobotanists claims for his determinations. A chapter on the value of fossil plants as indices of climate in the past completes the paper. A. H.

Field, Forest and Garden Botany, by Asa Gray, revised and extended by L. H. Bailey.

This once popular little manual, first published in 1869, had never been revised nor re-edited by its author, and, in conseqence, had, in time, lost much of its value and become somewhat obsolete. Prof. C. R. Barnes began a much needed revision which was later taken up and has just been successfully carried through by Prof. Bailey. Considering the nature of the task it is doubtful whether anybody else was as well equipped for it.

The reviser states that his first aim was to preserve, as far as possible, the method of the original, attempting " nothing more than to bring it down to date." The work, however, has been more thorough and extensive than those words would imply; not only were the nomenclature and definition corrected, but the analytical keys and grouping of species into sections have been rearranged and much new matter added, so that the original of 374 pages has been increased to 503 pages. The added matter consists of no less than 82 genera and 533 species, the total number of species being 3203, of which 1784 are indigenous and 1419 extra-limital (in cultivation). To give a few examples taken at random: *Clematis* has now 17 described species instead of 11 in the original; *Magnolia*, 8 species and hybrids instead of 3; *Brassica*, 8 instead of 5; *Tilia*, 6 instead of 3; *Prunus*, 29 instead of 19; *Pyrus*, 16 instead of 10; *Canna*, 11 instead of 5; Palms, 17 instead of 4, &c., and the quality has kept pace with the quantity. The typography is also very much improved, being even better than that of Gray's Manual, and, indeed, about as perfect as one could desire.

This book is intended to remain, as before, a companion to the Manual, and the nomenclature and definition are made to conform strictly with it; whatever shortcomings, therefore, the Manual is guilty of in these respects are shared by its companion work. A very welcome innovation is the citation of the authority after each name; this, in our day, has become a necessity in a work with any pretention to exactness.

As would be expected, special attention was devoted to cultivated plants, whether ornamental or useful, native or introduced; in this respect the revision is remarkably complete, including even such comparatively recent introductions as *Akebia quinata*, *Actinidia polygama*, *Solanum muricatum*, etc. It is not only the best, but, I may say, the only work descriptive of our domesticated flora. It will be heartily welcome by the many who have neither time nor facilities for the pure study of systematic botany, but who, nevertheless, love flowers and takes an intelligent interest in the wealth of decorative and useful plants which surround them on on all sides. V. H.

Pflanzenkrankheiten durch kryptogamen Parasiten verursacht Karl Freiherr von Tubeuf. Berlin, 1895.

This book is a condensed treatise on plant "parasitism" or "symbiosis" in its widest sense. Unfortunately the term plant-disease (Pflanzenkrankheit) is not defined, but the reader is led to assume that any change produced in a plant due to a "symbiotic" or "parasitic" relation with another plant is considered a plant disease.

The attempt is made to treat the physiological and morphological relations of parasitism from a comparative standpoint. Physiological and anatomical details are not entered into as that would be both impossible and unnecessary because of the copious citations of special authors whom the specialist interested may consult. All the authorites quoted are recent and standard. With few exceptions the figures are excellent. The numerous photographs are especially interesting.

The student of general botany will no doubt find Part I. the most interesting. Here the author has very briefly outlined his conception of parasitism in the wider sense. Here he also shows his greatest originality. Especially interesting are his distinctions between *Mutualism* ("Mutualismus") and *Nutricism* ("Nutricismus"). By the former is meant that form of parasitism in which the two symbionts mutually benefit each other. As the most important examples are to be mentioned the lichens. Here two organisms, an alga and a fungus live together for mutual benefit. He emphasizes the fact that this symbiosis has so changed the life history of the two organisms that they combine to form a *new* organism. This union of two originally distinct organisms to form an independent organism he designates "*individualism*." By nutricism is meant that form of parasitism in which one of the symbionts is not benefited because no assistance is required. As an example may be mentioned the *mycorhiza* of certain trees and the *mycodomatiae* (rhizobia) of Leguminosae. Here the author supposes that the infecting fungus works in the interest of the plant infected without receiving any benefit in return.

In Part I. are also given various approved methods and means for guarding against infection of pernicious parasites and how to to destroy them after infection has taken place.

Part II., which is by far the most extensive, treats of "phytopathogenic fungi and algae." It is essentially a systematic description of the infecting fungi and algae based upon the most recent investigations and conclusions.

Taken all in all, this work is certainly a most valuable contribution to the science of botany. It will prove of great benefit to all botanists. The condensed retrospect of the subject will suffice for the general student, while the citations will be found very useful by the special student.

Language and style are scientifically clear and simple. Only a a few of the figures are borrowed. ALBERT SCHNEIDER.

A Monograph of the North American Species of the Genus Polygonum, by John Kunkel Small. This work, a folio of 183 pages (not counting the plates), was issued on the 23d of April, 1895, as the first volume of Memoirs from the Department of Botany of Columbia College.

In the introduction, after discussing the position of the family to which it has given a name, the relation of the genus *Polygonum* to its allies is taken up and considered. Then follow chapters on the geographical distribution of the species, the general morphology of the genus, the anatomy of the stem and general anatomy.

Natural and distinct as the genus appears, it admits of division into well-marked sub-genera, nine of which contain representatives in the New World, viz.: Bistorta, Aconogonon, Persicaria, Amblyogon, Tovaria, Avicularia, Duravia, Tiniaria and Echinocaulon. These, as described and figured by Dr. Small, including a fossil species from the Miocene Tertiary of Colorado, number 71. Each of them is illustrated by an uncolored outline-drawing on a separate sheet, so admirably executed as to make the salient characters clear to the eye, and the descriptions on the opposite pages are models for their terse and accurate use of botanical terminology.

The new species, 9 in all and the varieties 8, form a large addition to the genus.

The latter part of the volume is devoted to the comparative anatomy of the stems of certain species, accompanied by 15 excellent plates, which exhibit such diversities of internal structure as to afford essential aid in support of sub-generic and even specific distinctions.

To withhold recognition, so fairly earned and so worthy of acknowledgment, from a work like this would be wrong. It is highly creditable both to the author and to the college whose ample resources and friendly help enabled him to produce it. The fruit, not of a hasty and rapid incursion, but of persistent, patient and thorough study of the field which it covers, the contribution it has made to science is solid and will endure. What Dr. Engelmann did for *Juncus* has now been done for *Polygonum*, and more of just this kind of labor is needed for the better elucidation of our North American Flora. T. C. P.

Proceedings of the Club.

Tuesday Evening, May 14th, 1895.

The President in the chair and 22 persons present.

Mr. A. Ruth and Mr. W. A. Bastedo were elected active members.

The editor announced the publication of the third part of Vol. 4 of the Memoirs, and stated that the fourth part would contain a paper by Mrs. Pettit on *Arachis hypogaea*.

Mr. Lighthipe reported excellent progress in the rearrangement of the herbarium.

The announced papers of the evening were then presented.

1. By Mr. George V. Nash, "The North American Species of the Genus *Cenchrus*," illustrated by specimens.

2. By Mrs. Anna S. Pettit, "Notes from a Study of the Peanut, *Arachis hypogaea*."